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CLAIMS:

1.   Apparatus for predicting the outcome of a conditional branch within a computer system, the apparatus comprising means for identifying the occurrence of a conditional branch, means (20) for obtaining data relating to system activity since a previous branch, means for comparing said data with data relating to previous system activity, and means for predicting the branch outcome based on such comparison.

2.   Apparatus according to claim 1, wherein the data relating to system activity comprises average system activity.

3.   Apparatus according to claim 1 or claim 2, wherein an activity history table is provided in which is stored data relating to previous system activity and the branch outcome to which such activity corresponded.

4.   Apparatus according to claim 3, comprising means for, when a conditional branch is encountered, retrieving data relating the system activity between the current and previous branches, and means for comparing this data with the data contained in the activity history table, wherein said means for predicting the branch outcome selects the branch outcome which has associated therewith activity data which most closely resembles the current retrieved activity data.

5.   Apparatus according to claim 4, wherein the activity history table updated with the latest activity data and the selected branch outcome.

6.   Apparatus according to any one of the preceding claims, including means for predicting the outcome of a conditional branch using the outcome history of that and/or previous branches.

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7.   Apparatus according to claim 7, wherein data relating to the activity of the system is only used for branch outcome prediction if the confidence of accuracy of branch outcome prediction using branch history is relatively low.

5   8.   A method for predicting the outcome of a conditional branch within a computer system, the method comprising the steps of identifying (105) the occurrence of a conditional branch, obtaining (106) data relating to system activity since a previous branch, comparing (110) said data with data relating to previous system activity, and predicting (108) the branch outcome based on such comparison.